ANDREW LIANG

Systems & Software Engineer

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EXPERIENCE

Systems Engineering Intern (Integration & Test)

Northrop Grumman Corporation

June 2018 – Ongoing | Rolling Meadows, IL

- Writing controls software for lab motors to simulate actual flight.
- Automating testing of core company products.
- Diagnosing and solving electronics and hardware issues on each component of the testing labs.

Full Stack Developer

Hack4Impact UIUC

February 2018 – May 2018 | Urbana-Champaign, IL

- Shipped an interactive map based web application using React, Redux, and Flask to the nonprofit organization Neighborhood News Bureau.
- Created an intuitive copy-paste user interface for rapid object duplication.
- Built all map-related endpoints for the RESTful API.
- Incorporated mathematical modeling to generate realistic timeline spacing.

Systems Engineering Intern (Modeling & Simulation)

Northrop Grumman Corporation

May 2017 – August 2017 | Rolling Meadows, IL

- Contributed to a high priority CIRCM (Common Infrared CounterMeasures) simulations product using a RabbitMQ-based API in C#.
- Devised and integrated a network communications device to funnel data streams between the simulation and recording software.
- Revised product specifications and user manuals for clarity and consistency.

RESEARCH

Quantum Physics

University of Illinois at Urbana-Champaign

February 2017 – May 2017

- Implemented a real-time quantum state tomography interface in Python
- Applied Bayesian methods to improve accuracy of results and contrast with pre-existing methods

Mathematics

University of Illinois at Chicago

2010 – 2014

- Proved the Yau Geometric Conjecture to be true for all cases in six dimensions, applying it to produce an estimate for the Dickman-de Bruijn function
- Presented and defended at the Dongrun-Yau Science Awards (formerly known as the Yau High School Mathematics Awards) regional competition.
- Published a fifty-page research paper to Science China Mathematics (Liang, Yau, and Zuo 2016)

EDUCATION

B.Sc. in Engineering Physics

University of Illinois at Urbana-Champaign

August 2014 – May 2018

- Concentration in Computational Physics.
- GPA: 3.31/4.0.
- Physics Coursework
  - Computation in Physics
  - Electronic Circuits
  - Numerical Methods
  - Numerical Analysis
- Computer Science Coursework
  - Data Structures
  - System Programming
  - Algorithms & Models of Computation
  - Artificial Intelligence

SKILLS

Web Development | OOP | Embedded | Physical Modeling | Numerical Analysis

LANGUAGES

C | Python | C# | C++ | Javascript

English | Cantonese | Spanish | Mandarin

REFEREES

Steve Pelech
Northrop Grumman Corporation
steven.pelech@gmail.com

Prof. Stephen Yau
University of Illinois at Chicago
yau@uic.edu

PUBLICATIONS

Journal Articles

- Liang, A., S. Yau, and H. Zuo (2016). "A sharp estimate of positive integral points in 6-dimensional polyhedra and a sharp estimate of smooth numbers". In: *Science China Mathematics* 59 (3), pp. 425–444.